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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ALSTON & BIRD LLP			EXAMINER	
BANK OF AMERICA PLAZA			DANIELS, MATTHEW J	
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CHARLOTTE, NC 28280-4000			ART UNIT	PAPER NUMBER
			1732	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/657,679	SERRAS ET AL.	
	Examiner Matthew J. Daniels	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 January 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2,6 and 8-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 2,6 and 8-17 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/12/06</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. By entry of the amendment, Claims 1, 3-5, and 7 are cancelled, and Claims 16 and 17 are new. Claims 2, 6, and 8-17 are pending.

Information Disclosure Statement

2. The information disclosure statement containing a list of the cited documents is enclosed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Rejections set forth previously under this section are withdrawn in view of the amended or cancelled claims.
4. **Claim 16** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's arguments (page 5) indicate that about 19% water by weight of plaster is required for hydration, which the Examiner interprets to be crystallization into the hydrated calcium sulphate. Therefore, in this interpretation, Claim 16 should include amounts greater than about 38% water by weight of plaster. However, because Claim 2 contains as little as 35% water by weight of plaster, the water content is broadened by the dependent claim, and renders the scope of independent Claim 16 indefinite.

Claim Rejections - 35 USC § 102

5. Claim rejections set forth previously under this section are withdrawn in view of the amended claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Rejections set forth previously under this section are withdrawn in view of the amended claims.

7. **Claims 16, 2, 6, 8, 12, 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brouard (USPN 5507996) in view of Randel (USPN 1901051) and Revord (USPN 3809566).

As to Claim 16, Brouard teaches a method for manufacturing a building element based on plaster, comprising preparing a mixture of plaster, water, and filler (5:25-30), the mixture comprising a quantity of water which is substantially equal to or greater than twice the quantity of water necessary for crystallization of plaster at atmospheric pressure (See instant Claim 2, which discloses that this amount is 35 to 45 parts water per 100 parts plaster, also See Brouard, 5:27-28), applying to the mixture in the mold a pressure (5:55-6:67), obtaining a compressed mixture, and unmolding the compressed mixture element (inherent). Brouard appears to be

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silent to a) the order of crystallizing and unmolding, and b) a pressure at least equal to a threshold value. However, these aspects would have been *prima facie* obvious for the following reasons:

a) Firstly, the particular order of steps of crystallizing and unmolding would have been *prima facie* obvious over Brouard's method, which teaches the same steps performed in a different order (see column 6). Any order of performing process steps disclosed in the prior art is generally considered to be *prima facie* obvious in the absence of new or unexpected results. See MPEP 2144.04(IV)(c). Additionally, the Applicant's specification does not assert any unexpected results to be attributed to this change in the order of steps, and in fact teaches that both orders of steps can be performed. See Page 3, lines 10-13. Additionally, Revord teaches the claimed order, namely that setting of gypsum based building products can proceed after being ejected from a mold (3:17-34).

b) Secondly, Randel teaches that it is known to mold a mixture, also containing a ratio of plaster to water within the range disclosed by Applicant's Claim 2 (See Randel, page 4, left column, line 47), at a pressure of 4000 psi, which is greater than the pressure of 150 bars (equivalent to 2176 psi) claimed in instant Claim 12. Randel's teachings show that both the molding pressure (page 4, left column, lines 12-21) and amount of water (page 4, lines 28-58) represent result-effective variables. See MPEP 2144.05 II and *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to optimize these variables depending on the required pouring consistency and water absorption.

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It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Randel and Revord into that of Brouard in order to provide an optimum pouring consistency and a lower water absorption (Randel, page 4, left column) and to diffuse the water through the gypsum uniformly and to produce high compressive strengths (4:25 and 4:46-57).

As to Claim 2, Brouard teaches the claimed ratio of water to plaster (5:25-30). **As to Claim 6**, a two-step pressing process to reduce voids would have been obvious over Brouard's teachings at 5:57-28. Randel teaches that a higher pressure produces less absorption in the finished product (page 4, left column). **As to Claim 8**, Brouard teaches sand (5:27), which is inert. **As to Claim 12**, Randel's pressure exceeds the threshold pressure, and although Brouard appears to be silent to a temperature, the Examiner submits that the claimed temperature reads on room temperature, and therefore would have been *prima facie* obvious when combined with Randel's pressure. **As to Claim 17**, Brouard's mixture meets or suggests the claimed amounts (5:25-30).

8. **Claim 9-12 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brouard (USPN 5507996) in view of Randel (USPN 1901051), Revord (USPN 3809566), and further in view of Dailey (USPN 2571343). Brouard, Randel, and Revord teach the subject matter of Claim 16 above under 35 USC 103(a). **As to Claim 9**, Brouard, Randel, and Revord appear to be silent to a filler that is not inert with respect to the plaster. However, Dailey teaches organic fillers such as paper fiber, wood flour, hemp, and starch (1:30-38), and the Examiner takes the position that these substances would be at least partially "not chemically inert" with

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respect to the plaster. Dailey additionally teaches soluble potassium salts in order to control setting expansion (6:50-52), which also constitutes a filler that is “not chemically inert” with respect to the plaster. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Dailey into that of Brouard, Randel, and Revord in order to produce a dense, strong and tough cast (4:45-50) because of its reinforcement (1:36) requiring no drying (4:24-35). **As to Claims 10 and 11**, Dailey teaches the beneficial aspects of melamine (2:20-25). It would have been further prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate Dailey’s method in order to provide “the very desirable characteristic of decreasing the amount of water required to be mixed with the alpha gypsum to produce a mix of pourable of fluid consistency.” (2:15-19). **As to Claim 12**, Dailey teaches that temperature is a result effective variable (2:34-43). See MPEP 2144.05 II and *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Additionally, because 15 to 20 degrees C is approximately room temperature, and because Randel’s pressure exceeds this value, it is submitted that these conditions would have been prima facie obvious to one practicing the combined method. **As to Claim 14**, Dailey teaches the beneficial aspects of melamine (2:20-25). It would have been further prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate Dailey’s method in order to provide “the very desirable characteristic of decreasing the amount of water required to be mixed with the alpha gypsum to produce a mix of pourable of fluid consistency.” (2:15-19).

9. **Claims 13 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brouard (USPN 5507996) in view of Randel (USPN 1901051), Revord (USPN 3809566), and

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further in view of Jagdmann (USPN 1925050). Brouard, Randel, and Revord teach the subject matter of Claim 16 above under 35 USC 103(a). **As to Claims 13 and 15**, Brouard teaches a cavity, produced by a core (3:50-65, 4:51-60). Brouard appears to be silent to the rod or particular shape, however, Jagdmann teaches driving at least one element with a reduced cross section into the mixture in the mold and guiding and driving a rod axially in translation into the mixture (Page 1, lines 40-45, also see Page 4, lines 70-92 and Figs. 7 and 8). It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Jagdmann into that of Brouart, Randel, and Revord in order to provide a more uniform size and density (Page 1, lines 1-55).

Response to Arguments

10. Applicant's arguments filed 12 January 2006 have been fully considered but they are not persuasive. The arguments appear to be on the following grounds:

- a) Most of the prior document disclose a small or stoichiometric amount of water, however, the compression of the mixture does not prevent the crystallization of the plaster, which causes volume expansion and makes it difficult to withdraw the molded product.
- b) It is only when the mixture contains about twice the quantity of water necessary for crystallization that crystallization can be prevented.
- c) Claim 16 now contains the essential three features of the quantity of water, the pressure, and the crystallization at atmospheric pressure after unmolding.

- d) Chassevent uses an “anhydrous plaster”, which is not really a plaster. Plaster is a semihydrate of calcium sulphate. The quantity of water necessary for the hydration of semihydrate plaster is about 19% by weight.
- e) The rejections over Dailey, Claus, and Jagdmann were not particularly argued.

11. These arguments are not persuasive for the following reasons:

- a) Note also Chassevent’s teaching that it is known to do what Applicant has done, namely incorporate 40 parts of water per 100 parts of plaster (page 1, right column, lines 59-72). For this reason, the rejection over Chassevent set forth previously is believed to be valid. However, the best rejection against the new Claim 16 is set forth above.
- b) The Applicant’s remarks appear to assert the criticality of the quantity of water. However, the Applicant’s specification clearly teaches that the compression is exerted for a time “sufficient for air and excess water in the mixture to be evacuated from the mold.” (emphasis added, page 7, lines 12-14). It is unclear how criticality can be attributed to the water content when a portion of this water, which Applicant asserts to form a novel and inventive aspect of the invention, is evacuated from the mold. However, Chassevent teaches that the water content is not new in the art (see part a. above), and additionally each of Brouard and Randel teach this aspect.

The Examiner submits that it is unclear, and no evidence has established, how the claimed ranges are critical or unexpected over the prior art.

- c) Revord clearly teaches setting after removal from the mold (3:17-34), Brouard teaches the claimed water content, and Randel clearly teaches the claimed pressure. It is unclear how the claimed elements are asserted to be new in the art. Additionally, it is unclear how criticality or

unexpectedness is due to either the water content, which Applicant's specification teaches being removed during the pressing process, or the crystallizing outside the mold, which Applicant's specification shows as a non-critical embodiment.

d) While Chassevent teaches anhydrous plaster, Chassevent also teaches molding plaster in the right column of page 1, used in combination with the claimed amount of water. This aspect is additionally taught by the references cited in the new rejections.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Friday, 7:30 am - 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJD 3/17/06

MJD

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